

Warm Up answers:

1) $(x+2)(x-2)$

2) $(x+3)(x+2)$

3) $(x+3)(x+1)$

4) $2(x-3)(x+3)$

5) $(x-9)(x+1)$

6) $(3x+1)(x+1)$

7) $\frac{x^3}{2y^2} = \frac{x}{2y^2}$

8) $\frac{3x^2 \cdot 210}{5 \cdot y^2} = \frac{6x^2}{y^2}$

10) $\frac{12y^2}{4x} = \frac{3y^2}{x}$

9) $\frac{x^3}{3y} = \frac{x}{3y}$

$\frac{y \cdot y \cdot y}{y \cdot y \cdot y}$

$$\textcircled{11} \frac{(x-2) \cdot \cancel{(x+4)}}{3 \cdot \cancel{(x+4)} \cdot (x-9)} = \frac{x-2}{3(x-9)}$$

$$\textcircled{12} \frac{(x+7) \cdot \cancel{(2x+5)}}{x \cdot \cancel{(2x+5)} \cdot (x-10)} = \frac{x+7}{x(x-10)}$$

Unit 7: Ch. 9.4

$$\textcircled{1} \quad \frac{\cancel{3}}{4} \cdot \frac{5}{\cancel{6}2} = \frac{\cancel{15}^5}{\cancel{24}8} = \textcircled{\frac{5}{8}}$$

$$\textcircled{\frac{5}{8}}$$

$$\textcircled{2} \quad \frac{\cancel{4}^{\cancel{12}}}{\cancel{2}} \cdot \frac{\cancel{9}^3}{5x^{\cancel{4}}} = \textcircled{\frac{12}{5x}} \quad \frac{\overset{12}{\cancel{36}^{\cancel{12}}}}{\underset{5}{\cancel{15}x^{\cancel{12}}}}} = \frac{12}{5x}$$

$$\textcircled{3} \quad \frac{5 \cancel{20} x y^2}{3 \cancel{6}} \cdot \frac{x}{\cancel{3} \cancel{2}} = \frac{5 \cancel{20} x^2 y^2}{9 \cancel{36}} = \left(\frac{5 x^2 y^2}{9} \right)$$

$$\downarrow$$

$$\frac{5 x^2 y^2}{9}$$

* Cancel like terms, then multiply



$$\textcircled{4} \frac{4 \cancel{12} \times^2 \cancel{4}}{5 \cancel{4}} \cdot \frac{2 \times \cancel{4}}{3 \times^2} = \frac{8 \times}{5}$$



$$\frac{8 \cancel{24} \times \cancel{4}}{5 \cancel{15} \times^2} = \frac{8 \times}{5}$$

$$\frac{8 \times}{5}$$

$$\textcircled{6} \quad \frac{\cancel{4} \cancel{16}}{\cancel{9} x} \cdot \frac{\cancel{3} \cancel{2} \cancel{7}}{\cancel{4} \cancel{6} x} = \frac{\cancel{3} \cancel{108} \cancel{1}}{\cancel{4} \cancel{144} x^2} = \frac{3}{4x^2}$$

$$\begin{array}{r} 3 \\ \hline 4x^2 \end{array}$$

$$108/144$$

MATH \Rightarrow FRAC

ANS \Rightarrow FRAC

$$3/4$$

$$\textcircled{5} \frac{x^2 - 2x}{x^2 + 2x + 1} \cdot \frac{x^2 + 4x + 3}{x^2 + 3x}$$

$$\frac{\cancel{x}(x-2) \cdot \cancel{(x+3)}\cancel{(x+1)}}{(x+1)\cancel{(x+1)} \cdot \cancel{\cancel{\cancel{x+3}}})}$$

$$\textcircled{\frac{x-2}{x+1}}$$

$$\textcircled{7} \frac{x^2 + 2x - 3}{x + 2} \cdot \frac{x^2 + 2x}{x^2 - 1}$$

$$\frac{(x+3)(\cancel{x-1})}{(\cancel{x+2})} \cdot \frac{x(\cancel{x+2})}{(x+1)(\cancel{x-1})}$$

$$\frac{x(x+3)}{x+1}$$

$$\frac{\cancel{2} \cancel{4} \cancel{4}}{\cancel{2} \cancel{4} \cancel{4}} = \frac{1}{2}$$

p. 558

$$\textcircled{9} \frac{x^5}{25y^2}$$

$$\textcircled{10} \frac{2x^{10}}{15y^3}$$

$$\textcircled{28} \frac{y^3}{2x^2}$$

$$\textcircled{30} \frac{2(x+2)}{3(x+1)}$$

$$\textcircled{32} \frac{(x-3)(x+1)}{4x^3(x+3)}$$

$$\textcircled{9} \frac{\cancel{16x^{10}} \cdot \cancel{X^5y^8}}{\cancel{5y^{10}} \cdot \cancel{80xy}} = \frac{x^5}{25y^2}$$

Dividing

$$\textcircled{1} \quad \frac{3}{4} \div \frac{5}{8} \Rightarrow \frac{3}{\cancel{4}} \cdot \frac{\cancel{2}8}{5} = \textcircled{\frac{6}{5}}$$

$$\textcircled{2} \quad \frac{\frac{3x}{5}}{\frac{6x^2}{25}} \Rightarrow \frac{3x}{5} \div \frac{6x^2}{25} \Rightarrow \frac{\cancel{3}}{\cancel{2}} \cdot \frac{\cancel{25}5}{\cancel{2}6x^{\cancel{2}}}$$

$$\textcircled{\frac{5}{2x}}$$

* like #7 & 9

$$\textcircled{3} \frac{4xy^3}{5} \div \frac{x}{6}$$

$$\frac{4\cancel{x}y^3}{5} \cdot \frac{6}{\cancel{x}}$$

$$\frac{24y^3}{5}$$

- flip second frac.

- change \div to \times

- multiply & simplify

Answers: Dividing Examples

$$\textcircled{4} \frac{x}{2}$$

$$\textcircled{7} \frac{8x}{5}$$

$$\textcircled{5} \frac{x-11}{x+8}$$

$$\textcircled{8} \frac{x}{3(x-1)}$$

$$\textcircled{6} \frac{20x}{3y^3}$$

$$\textcircled{9} \frac{(x-2)(x+6)}{5x^2}$$

$$\textcircled{4} \frac{\cancel{5}x^{\cancel{3}}}{\cancel{2}\cancel{8}} \cdot \frac{\cancel{1}\cancel{2}3}{\cancel{3}\cancel{5}\cancel{4}} = \frac{\cancel{3}x^3}{\cancel{2}\cancel{6}}$$

$$= \frac{x^3}{2}$$

$$\textcircled{5} \frac{(x-11)(\cancel{x+2})}{(x+8)(\cancel{x-3})} \cdot \frac{(\cancel{x-3})}{(\cancel{x+2})}$$

$$\frac{x-11}{x+8}$$

$$\textcircled{8} \quad \frac{x^{\cancel{3}}}{(\cancel{x+1})(x-1)} \cdot \frac{\cancel{x+1}}{3\cancel{2}}$$

$$\frac{x}{3(x-1)}$$

$$\textcircled{9} \frac{5x^2-20}{25x^2} \div \frac{x^2+6x+8}{x^2+10x+24}$$

$$\frac{5(x^2-4)}{5x^2-20} \cdot \frac{x^2+10x+24}{x^2+6x+8}$$

$$\frac{\cancel{5}(x+2)(x-2)}{5\cancel{25}x^2} \cdot \frac{(x+6)(\cancel{x+4})}{(\cancel{x+4})(\cancel{x+2})} = \frac{(x-2)(x+6)}{5x^2}$$